

# Antibiotic Prophylaxis in Second Trimester Amniocentesis: Is it Necessary?

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## Antibiotic Prophylaxis in Amniocentesis

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### Abstract

Aim: Amniocentesis is an invasive diagnostic procedure performed under ultrasonographic guidance. With this procedure amniotic fluid is sampled from the pregnant uterus by a needle puncture through the overlying skin into the uterus and amniotic cavity. In the present prospective randomized multi-centered case controlled study we aim to compare the efficacy of antibiotic prophylaxis in preventing fetal loss during amniocentesis in 564 pregnancies.

Material and Method: 564 singleton pregnancies between 16 and 18 weeks' gestation admitted to our prenatal unit for amniocentesis between June 2011-July 2012 were included. Ampicillin (1g) was administered to 300 patients [that were odd numbered] upon admittance while the remaining 264 [that were even numbered] did not receive any prophylaxis.

Results: The rate of fetal loss between patients who received ampicillin (0.33%) and who did not (0.37%) was similar ( $p=0.87$ ).

Discussion: As maternal mortality and morbidity after amniocentesis is very low [less than 1/1000] antibiotic prophylaxis is usually not recommended. Gramellini et al. reported that antibiotic prophylaxis actually made no difference in post procedural abortion rates and our results were in line with these. However multi-center studies with larger groups are warranted.

### Keywords

Amniocentesis; Antibiotic; Prophylaxis; Fetal Loss; Perinatology

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bleeding, and a history of second-trimester abortion, it is very important to comprehend not only how these factors come into effect, but also how they can be neutralized. Moreover, antibiotic usage has its own risks, including (but not limited to) an increased resistance among known pathogenic microorganisms and a notable increase in financial costs. Hence it may be logical to administer antibiotic prophylaxis to women with certain risk factors or not at all [4-10-11].

Finally in terms of prophylaxis we can conclude that there is still not enough evidence to suggest routine use of antibiotics in amniocentesis to prevent post procedural fetal losses or any maternal mortality or morbidity.

Nevertheless it is also clear that more studies based on different centers and with larger groups would be required for definite conclusions.

#### Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

#### Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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#### Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

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